Ch 3 Test

November 2, 2017 10:26 AM

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MC – 10 questions

Written – 5 questions

$F_{net} = F_{app} - F_{against}$ → acceleration

T from a free body diagram

elastic collisions → E_k is conserved

→ p is conserved (as always)

→ 90° or (180° if bounces straight back)

momentum vector addition and subtraction

$imp = \Delta p = p_f - p_0$ ($E = p_0$, $-p_0 = w$)

$p_f + (-p_0)$

pythag
sin, cos, tan

sine law
cosine law

$imp = F\Delta t = \Delta p = m\Delta v$

[N·s] [kg m/s]

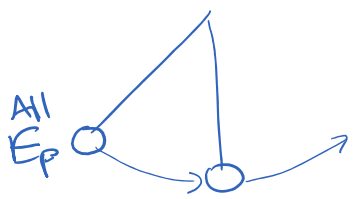
manipulate formula

$p = mv$

$E_k = \frac{1}{2}mv^2$

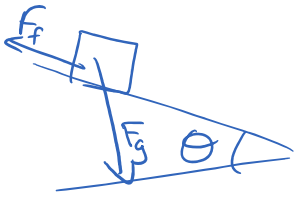
$E_p = mgh$

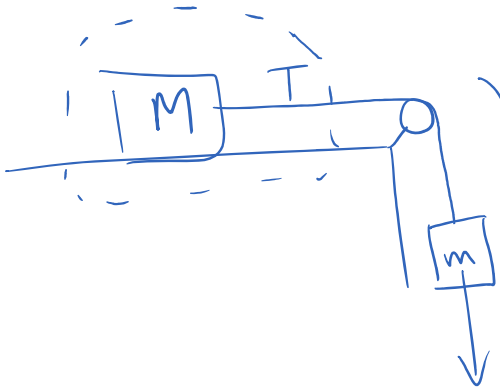
pendulum



All E_k

calculate friction on a slope





$a \rightarrow F_{net} = mg - \cancel{F_A}^{0}$

$$\text{Power} = \frac{W}{t}$$

Total energy is always conserved

$$0 = \underbrace{\Delta E_k + \Delta E_p}_{\text{mechanical energy}} + \underbrace{\Delta E_h}_{\text{from friction}}$$